



Honolulu Rail Transit Project Update

Options to HART's Current FFGA Scope

June 8, 2016

H O N O L U L U R A I L T R A N S I T P R O J E C T

www.honolulutrainsit.org

HART

HONOLULU AUTHORITY for RAPID TRANSPORTATION

Current Alignment

20 Miles – 21 Stations



Original FFGA Requirements

- On December 19, 2012, HART signed a Full Funding Grant Agreement for a total Project cost of \$5,121,693,163 with a Federal contribution of \$1,550,000,000. The Revenue Service Date (RSD) was to be January 31, 2020.
- The Project description stated “The Honolulu Rail Transit Project (the Project) consists of design and construction of a 20-mile, grade separated fixed rail system from East Kapolei to the Ala Moana Center in Honolulu Hawai’i. From East Kapolei, the Project proceeds to the University of Hawai’i at West Oahu, then east to Pearl Harbor, the Honolulu International Airport and ends at Kona Street adjacent to Ala Moana Center. The Project will operate in an exclusive right-of-way and will be grade separated except for a 0.6 mile, at grade section near the Leeward Community College. The Project includes 21 stations, 80 rail vehicles and a Maintenance and Storage Facility”.
- In FTA’s Risk and Contingency Review in September, 2012 for the FFGA, the PMOC stated that HART’s cost estimate of \$5.122 billion, including \$644 million in total contingency, was acceptable.

History of Review by FTA

- Since then, HART has worked closely with the FTA in the management of the Project.
- During this time, Monthly Reviews were performed by the FTA's Project Management Oversight Contractor (PMOC) and Quarterly Reviews performed by the FTA's Regional Office.
- On August 14, 2014, FTA issued another Risk Refresh letter in which they recommended that HART increase their cost estimate to \$5.386 billion by adding \$265 million (\$139.5 million in adjustments and \$125.5 million in additional contingency).
- Both the FTA and the PMOC, as well as HART, were surprised at the increased costs to the Project in late 2014 due primarily to the extraordinary construction cost increases in Honolulu over the past five years.
- On May 10, 2016, FTA forwarded a copy of their recent 2016 Risk Refresh entitled FINAL DRAFT for comment. In this review, the FTA states the cost to be \$7.731 billion (p50) including an increase of \$856 million in contingency, an increase of \$2.609 billion over the original FFGA cost estimate. The FTA also gave a cost of \$8.016 billion (p65) by including \$1.141 billion in contingency.

HART's Current Cost & Schedule Estimate

- To construct the Project as programmed in the FFGA,

- Projected Cost Estimate **\$7,967,000,000**

- Projected Schedule (same as FTA's estimate)

- ✓ Construction Completion **April, 2024**

- ✓ Revenue Service Date (RSD) **December, 2024**

HART's Current Capital Revenue Estimate

- Projected Revenue Resources total **\$6.827 billion**:
 - GET Revenue totals \$4.977 billion
 - ✓ Growth rate lowered from 5.04% in original financial plan (June 2012) to 4.3%
 - ✓ Council on Revenues current Statewide GET projection reflects a 4.8% compounded annual growth rate from FY 2014 to FY2022
 - ✓ Range from \$4.903 billion at 4% to \$5.167 billion at 5.04%
 - Federal Grant provides \$1.551 billion
 - Beginning Balance of \$0.3 billion
 - ✓ Consists of GET revenues and interest income prior to the grant period (January 2007 to October 2009) net of City expenses

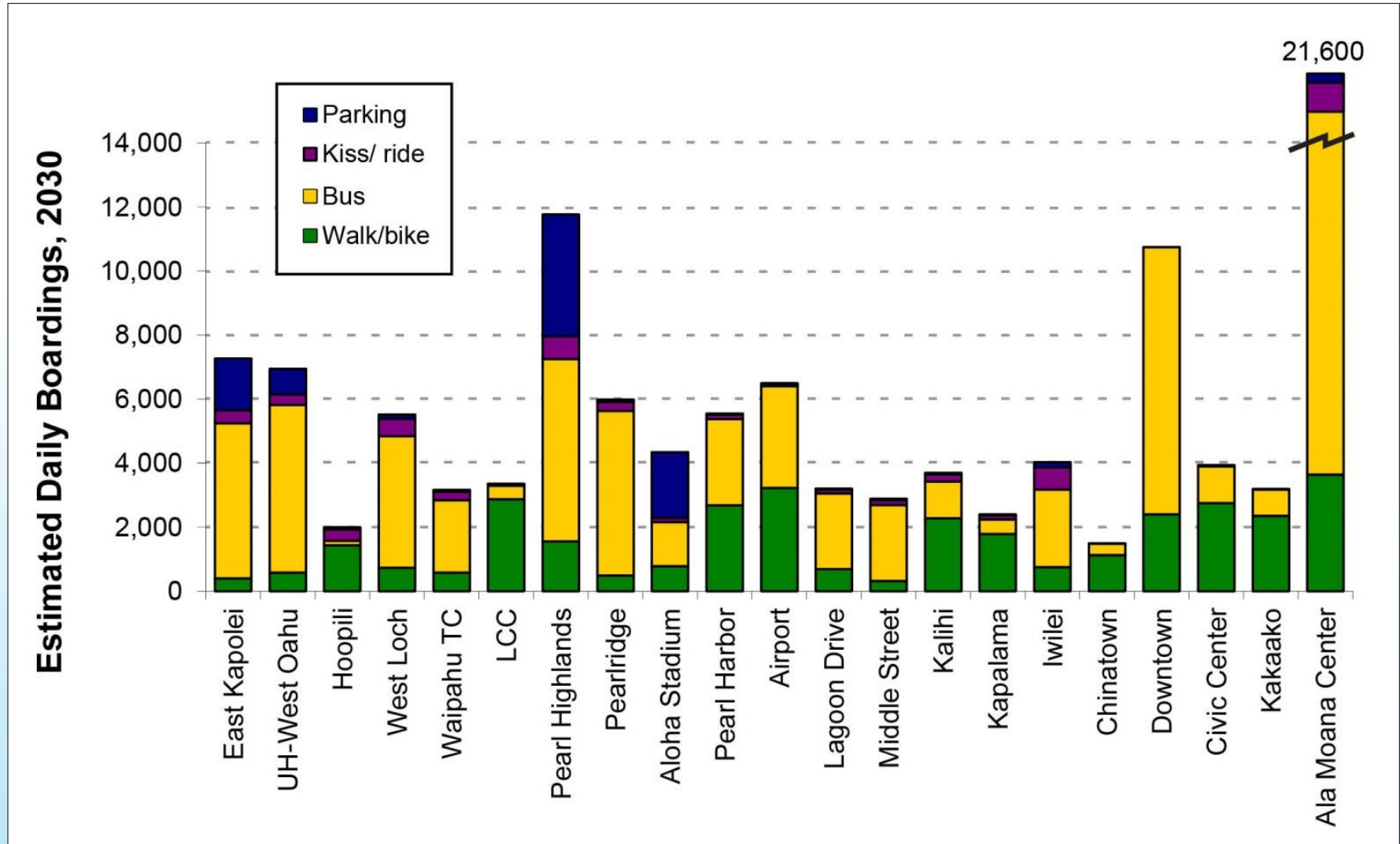
**Growth rate applied to 4 quarterly receipts through 1/31/2016*

Estimated Daily Boardings 2030

WEST SIDE	Daily Boardings	EAST SIDE	Daily Boardings
East Kapolei	7,266	Pearl Harbor	5,552
UH West O'ahu	6,939	Airport	6,490
Ho'opili	1,995	Lagoon Drive	3,215
West Loch	5,526	Middle Street	2,895
Waipahu Center	3,167	Kalihi	3,701
Leeward CC	3,356	Kapalama	2,395
Pearl Highlands	11,750	Iwilei	4,028
Pearlridge	5,982	Chinatown	1,499
Aloha Stadium	4,334	Downtown	10,748
		Civic Center	3,933
		Kaka'ako	3,199
		Ala Moana	<u>21,612</u>
		EAST/WEST TOTAL	119,582

4-car train update

Estimated Daily Boardings 2030



Projected Cost vs. Projected Revenue

- Given the projected Project cost of **\$7.967 billion** and the projected revenue of **\$6.827 billion**, the Project as defined by the FFGA has a potential deficit of **\$1.140 billion**
- Without additional revenue, HART, after consultation with the FTA, needs to consider options for construction within the current projected revenues
- **Build to Budget vs. Budget to Build**

Options

- #1 Build to Middle Street as planned plus “guideway only” to Ala Moana
- #2 Build to Middle Street as planned and continue with bus service
- #2a Build to Middle Street as planned and continue with at-grade rail system
- #3 Construct as far as funding allows (a la carte evaluation)
- #4 Public-Private Partnership (P3) Solicitations for all stations
- #5 Change alignment to Nimitz

Option #1

**Build to Middle Street as planned;
Build 'guideway only' to Ala Moana
(no stations, except Ala Moana)**

Description of Changes

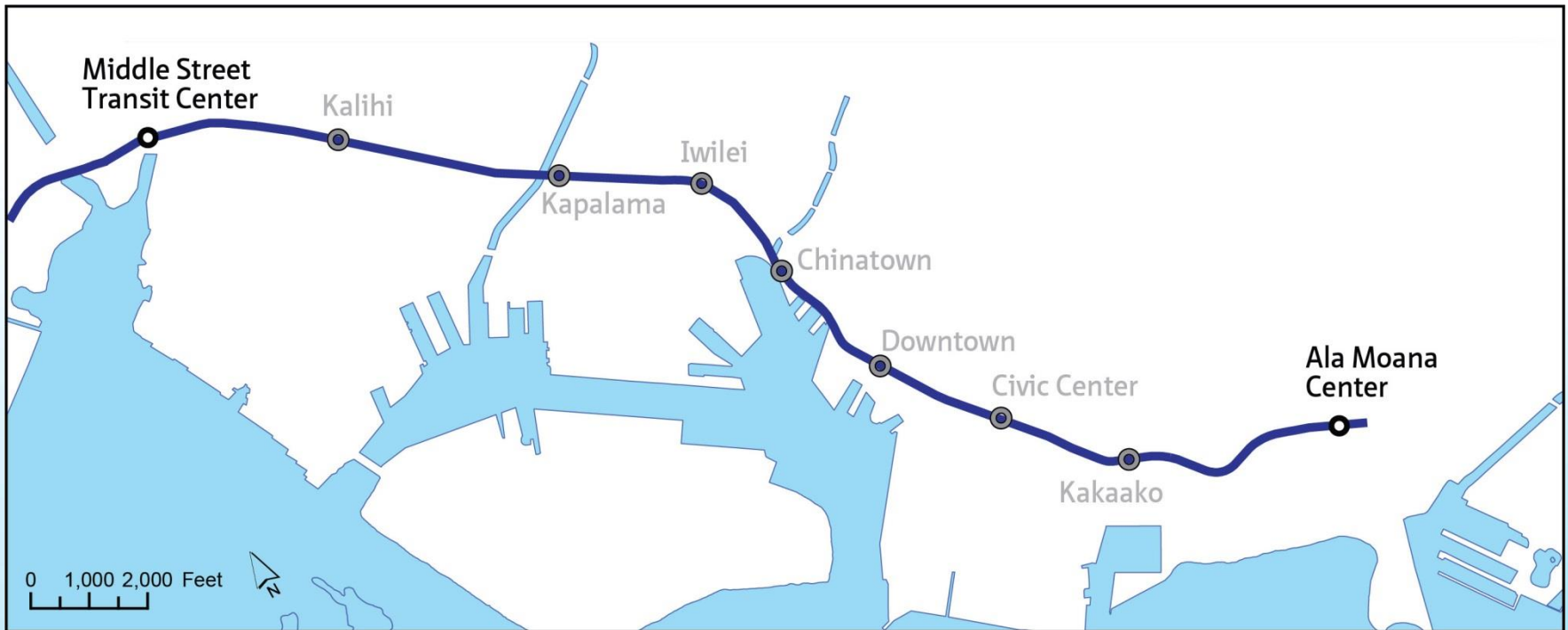
- Build 'guideway only' from Middle Street to Ala Moana
- Do not build any stations beyond Middle Street, except for the terminus station at Ala Moana

Middle Street Transit Center Site



Option #1

**Build to Middle Street as programmed;
Build “guideway only” to Ala Moana**



Option #1

Build to Middle Street as programmed; Build 'guideway only' to Ala Moana

Pros

- 1) Saves initial cost of building seven stations
- 2) Construction impact will be temporarily lessened by deferral of stations
- 3) Will reduce number of railcars, but will not recoup full cost
- 4) Preserves guideway corridor

Cons

- 1) Deferral of stations will significantly impact ridership
- 2) Increased final costs to build remainder of stations later
- 3) Increased costs to buy remainder of railcars later
- 4) No significant savings of time
- 5) No rail service to Kalihi, Downtown or Kaka'ako
- 6) Significant changes to existing contracts
- 7) **Insufficient funds (\$7.59+B)**

Option #2

Build to Middle Street as planned & continue with bus

Description of Changes

- Terminates elevated rail system after station
- Install crossover after station
- Initialize integration w/ bus transit center
- Move TPSS and other core system changes
- Construct Kiss and Ride facilities

Option #2

Build to Middle Street as planned & continue with bus



Option #2

Build to Middle Street as planned & continue with bus

Pros

- 1) Saves initial cost of building eight stations
- 2) Construction impact will be temporarily lessened by deferral of stations
- 3) Will reduce number of railcars, but will not recoup full cost

Cons

- 1) Change of travel modes discourages ridership
- 2) Requires more bus integration and increased bus service and cost
- 3) Increased costs of right-of-way acquisition later
- 4) Additional costs due to infrastructure changes and core system changes
- 5) Increased costs to build remainder of stations and guideway and buy railcars later

Option #2a

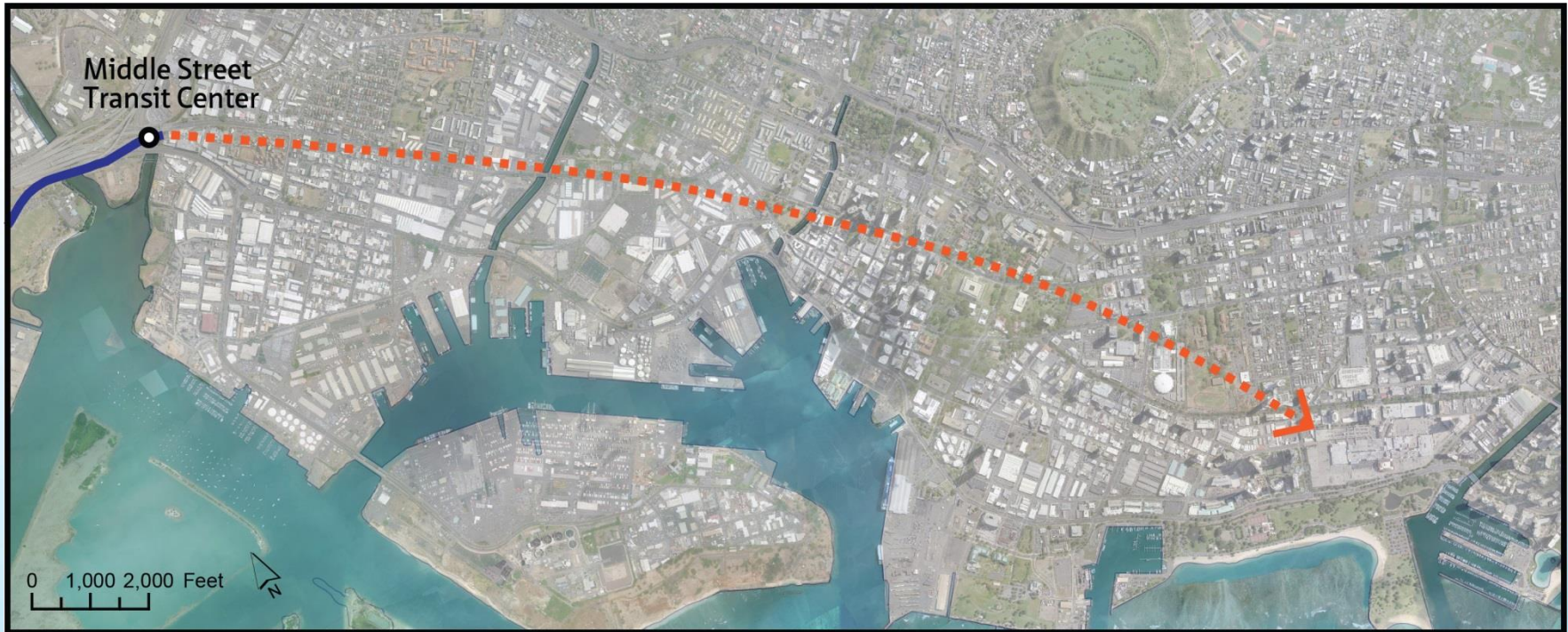
Build to Middle Street as planned & continue with at-grade rail system

Description of Changes

- Terminates elevated rail system after station
- Install crossover after station
- Possible need for Supplemental EIS for change in technology
- Initialize integration with bus and new light rail system
- Acquire land, design and construct new light rail operations and maintenance facility
- Design and construct alignment for light rail including overhead electrical catenary system
- Move TPSS and other core system changes

Option #2a

Build to Middle Street as planned & continue with at-grade rail system



Option #2a

Build to Middle Street as planned & continue with at-grade rail system

Pros

- 1) Provide a street running light rail system at grade
- 2) Size and cost of rail stations are minimized

Cons

- 1) Change of travel modes discourages ridership
- 2) Likely need for Supplemental EIS
- 3) Requires further bus and rail integration
- 4) Additional costs due to new rail system including land, design and train driver labor costs
- 5) New rail car costs and new rail maintenance and operations facility
- 6) Light rail intermixed with vehicles within the street network

Option #3

Construct Project as far as funding allows (a la carte evaluation)

1. Cost to terminate guideway after each station
2. Additional changes may need to be considered:
 - Install crossover after station
 - Move TPSS and other core system changes
 - Initialize integration with bus
 - Make necessary site changes to be a terminus
3. Itemized costs that could be saved by deferring a specific station

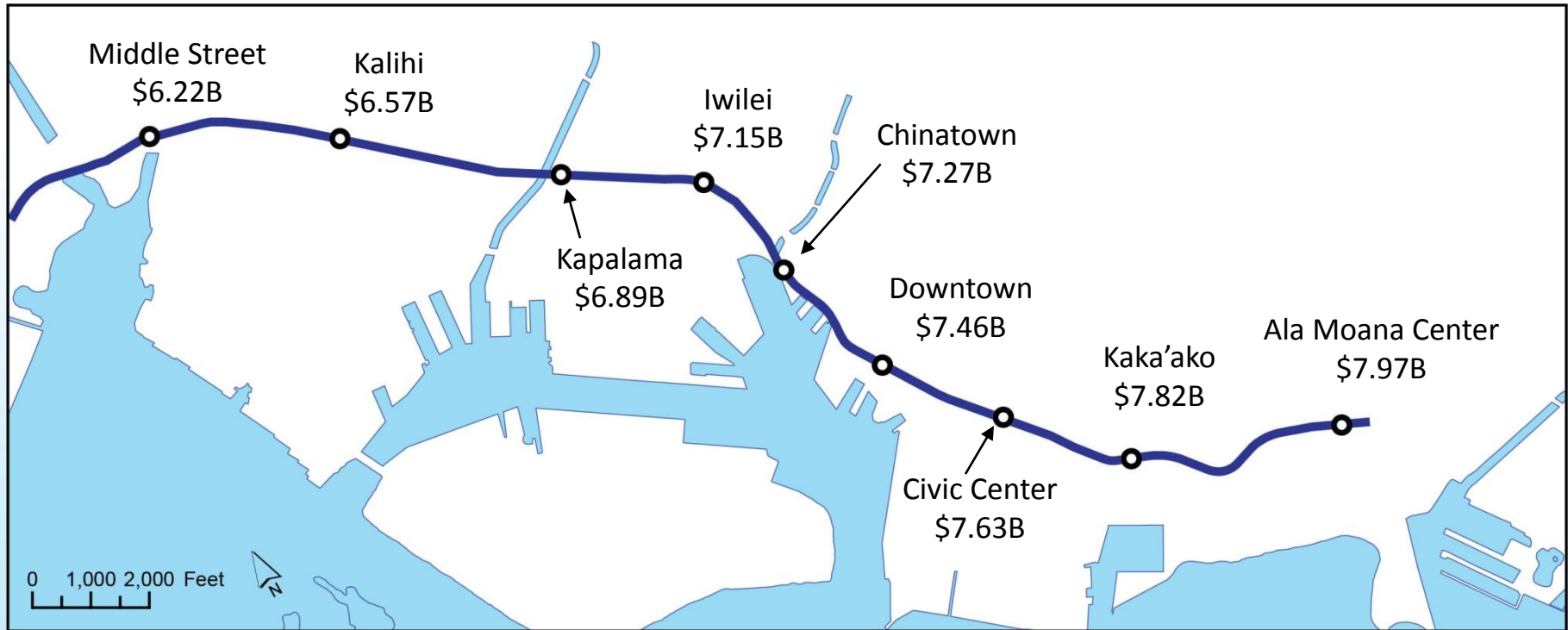
Option #3

Construct Project as far as funding allows

Cost to Complete Project to Each Station	
Middle Street	\$6.22B
Kalihi	\$6.57B
Kapalama	\$6.89B
Iwilei	\$7.15B
Chinatown	\$7.27B
Downtown	\$7.46B
Civic Center	\$7.63B
Kaka'ako	\$7.82B
Ala Moana	\$7.97B

Option #3

Construct Project as far as funding allows



Option #3

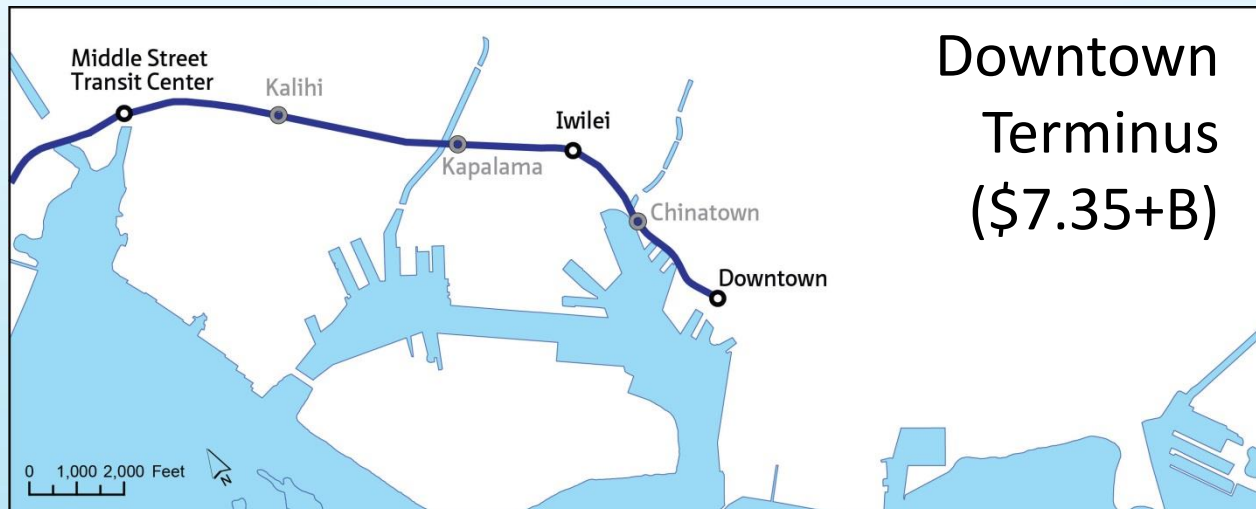
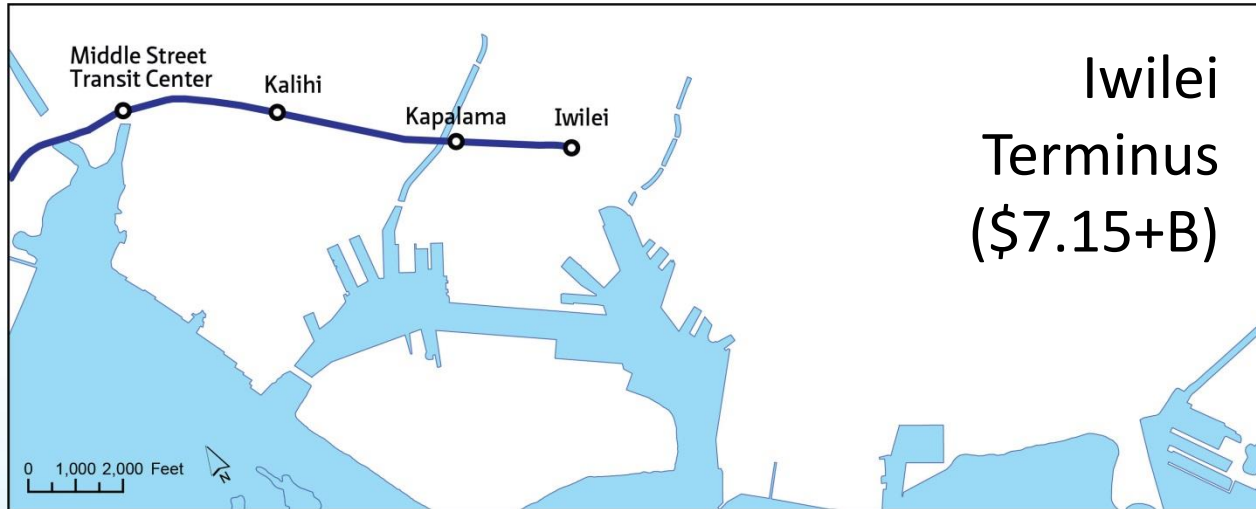
Construct Project as far as funding allows

Actual or Estimated Cost of Each Station

East Kapolei	\$ 17.7M	Airport	\$ 32.5M
UH West O'ahu	\$ 22.2M	Lagoon Drive	\$ 22.3M
Ho'opili	\$ 14.1M	Middle Street	\$ 45.9M
West Loch	\$ 41.0M	Kalihi	\$ 30.2M
Waipahu	\$ 35.2M	Kapalama	\$ 33.0M
Leeward CC	\$ 12.0M	Iwilei	\$ 31.8M
Pearl Highlands TC	\$ 280.0M	Chinatown	\$ 41.1M
Pearl Highlands	\$ 47.1M	Downtown	\$ 60.1M
Pearlridge	\$ 36.4M	Civic Center	\$ 37.4M
Aloha Stadium	\$ 30.5M	Kaka'ako	\$ 27.9M
Pearl Harbor	\$ 26.0M	Ala Moana	\$ 45.6M

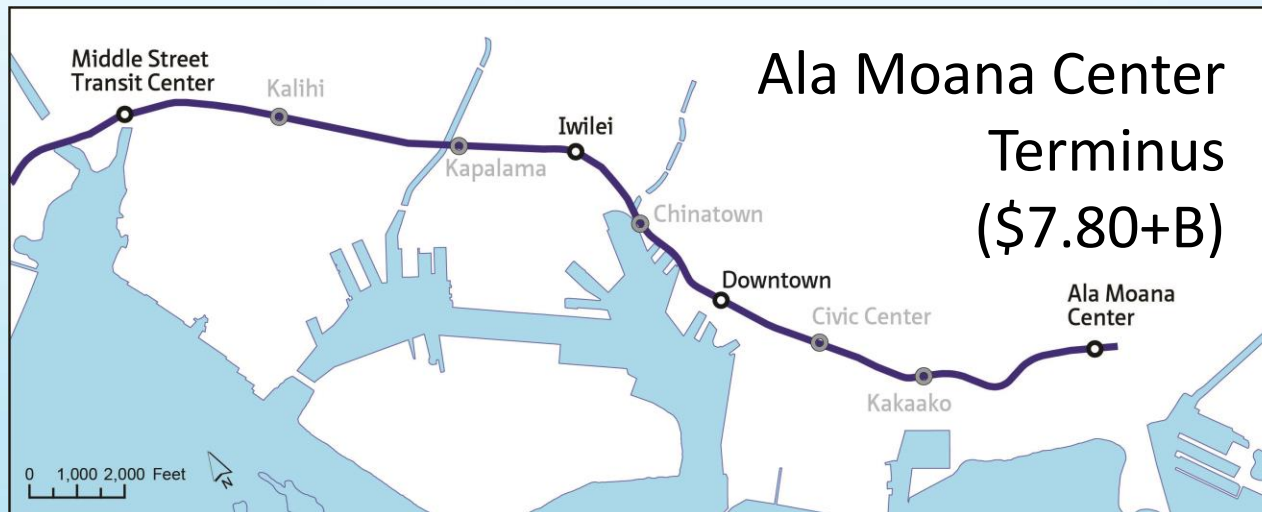
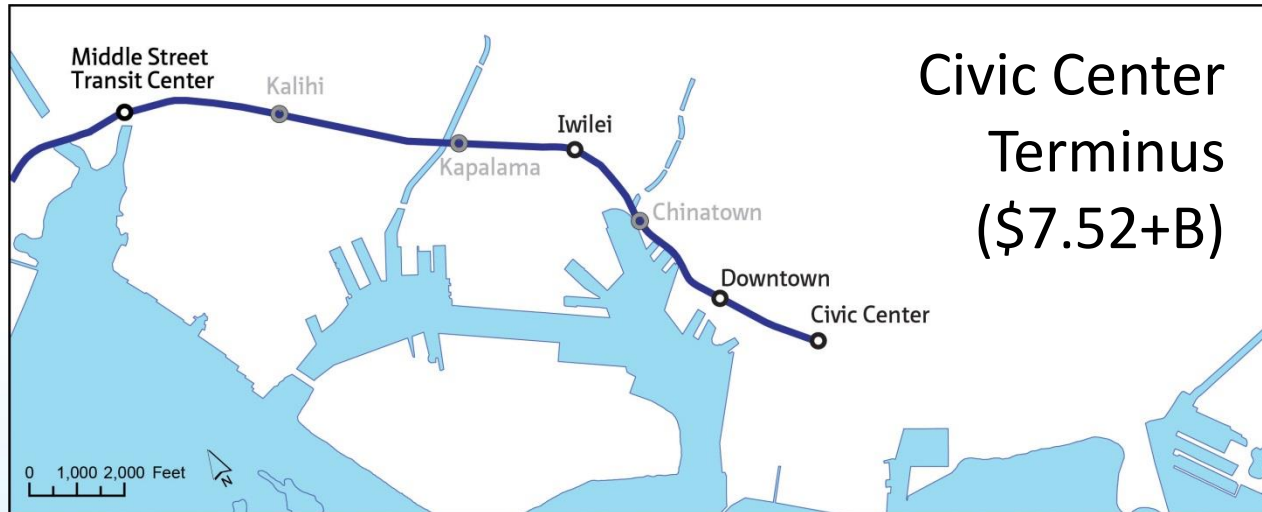
Option #3

(a la carte examples)



Option #3

(a la carte examples)



Option #3

Construct Project as far as funding allows

Pros

- 1) Maximizes flexibility in use of current funding
- 2) Saves initial cost of not building guideway and/or some stations
- 3) Construction impact will be temporarily lessened by deferral of stations and guideway
- 4) Will reduce number of railcars, but will not recoup full cost

Cons

- 1) Change of travel modes discourages ridership
- 2) Requires more bus integration
- 3) Additional costs due to infrastructure changes and core system changes
- 4) Increased costs to build remainder of guideway and/or stations later and buy railcars later

Option #4

Issue Public-Private Partnerships (P3) Solicitations for All Stations

- In an effort to reduce initial HART capital investments and get more buy-in by developers, issue P3 solicitations for all 21 stations.
- Decision would require change orders to existing contracts deleting nine stations; work has already begun on some of the contracts.

Option #4

Issue P3 Solicitations for All Stations



Option #4

Issue P3 Solicitations for All Stations

Pros

- 1) P3 Solicitations might result in lower costs for some stations

Cons

- 1) Requires stopping construction of nine west side stations, causing defaults for convenience by HART and high penalties
- 2) Impacts timing for new solicitations
- 3) Uncertainties on timing of availability of operational stations
- 4) Over \$900M in private capital would be needed to construct 21 stations

Option #5

Change Alignment to Nimitz Highway

- Instead of guideway alignment proceeding down Dillingham, alignment proceeds from Middle Street Station down Nimitz Highway to Downtown Station.
- Significant environmental and ridership studies would need to be performed before design work could begin.
- Station selections would need to be evaluated .

Option #5

Change Alignment to Nimitz Highway



Option #5

Change Alignment to Nimitz Highway

Pros

- 1) Costs could potentially be less because of fewer stations
- 2) Continues access to downtown area without same utility issues along Dillingham

Cons

- 1) Potential seven to ten year delay due to FTA review and approval including EIS
- 2) Possible ridership impacts
- 3) New station location and right-of-way acquisition
- 4) Introduces new unknown utility and superfund challenges
- 5) HDOT jurisdiction

Next Steps

- HART will take the feedback from today's presentation and update the presentation to be shared with the Mayor's Office and City Council. HART will refine the cost for the overall program as well as the analysis for any options the Board chooses.
- A Working Group will be formed to develop a plan for completing the Project in a manner that is in the best interest and benefit of the public.
- Advise current CCGS Priority-Listed Offerors of current status and potential timeline for remaining procurement.

Mahalo!



H O N O L U L U R A I L T R A N S I T P R O J E C T

www.honolulurailtransit.org

HART
HONOLULU AUTHORITY for RAPID TRANSPORTATION